

Western Electric Co., Incorporated,
Engineering Dept.,
New York.

(2 Pages) Page #1.
Issue 1a- BT-438524.
Replacing all previous issues.
April 20, 1920.

METHOD OF OPERATION
TELEPHONE CIRCUIT

Special Outgoing Trunk Test Board - Machine Switching System -

SOUTHWESTERN BELL TELEPHONE COMPANY

GENERAL DESCRIPTION

1. This telephone circuit is used at the special outgoing trunk test board to answers calls on trunk lines incoming from the final multiple also for originating calls, the telephone set being provided with a calling dial. It is arranged for use with the lines and loud speaking circuits. Provision is made to eliminate clicks in the receiver when answering calls incoming over machine ringing circuits.

DETAILED DESCRIPTION

OPERATION

2. On an incoming call from the final multiple, machine ringing is tripped by means of the #54-D retardation coil which is bridged across the line. When ringing has ceased, the B75 relay operates on direct current, in turn operating the E221 relay. The latter relay operated operates the E73 relay. The E73 relay locks under control of the B75 relay by its operation releases the E221 relay. The E221 relay released, closes a circuit through the E31 relay which operates, connecting the telephone circuit to the line. This sequence of operation provides a sufficient period to prevent the receiver being connected to the line until ringing has ceased.

3. When the call is incoming over the tie line, the special #32-B ringer operates. The talking key is then operated which closes the circuit through the #24 induction coil.

4. To make an outgoing call over an automatic trunk the calling dial is operated, short circuiting the #54-D retardation coil and sending the impulses as required. On an outgoing call over a tie line, the talking key is operated and ringing current is connected to the line to ring the bell at the distant end by the operation of the ringing key.

CIRCUIT REQUIREMENTS

OPERATE

NON OPERATE

RELEASE

B75

In series with one winding of the #54-D retardation coil when shunted by the other winding at 20 volts.

Through relay.

Test .0052 amp.

Re-adj. .0049

When applied to tip or ring lead.

Test .039 amp.

Re-adj. .037 amp.

Through relay.

Test .0025 amp.

Re-adj. .0026 amp.

When applied to tip or ring lead.

Test .018 amp.

Re-adj. .019 amp.

E31

Test .025 amp.

Re-adj. .012 amp.

Test .0038 amp.

Re-adj. .004 amp.

E73

Test .026 amp.

Re-adj. .013 amp.

Test .0095 amp.

Re-adj. .010 amp.

E221

Test .016 amp.

Re-adj. .015 amp.

Test .0028 amp.

Readj. .003 amp.

ENG.--WHL:JO.
1-5-22.

CHK'D.--FAB.

APPROVED - C. L. SLUYTER, G.M.I.